

Work Order ID 78395

78395

Page 1

January-09-12 8:54:34 AM

Item ID: D206-642-241

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Replacement Skidtube

Start Date: 09/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: M.C.J.

Date: 12/01/09 Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2650

Rev F

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-241

CHG005

N/A

D2650-3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 78395

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Item ID: D206-642-241

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N9000040100

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Start Date: 09/01/2012 Start Qty: 1.00

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Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

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Reference:

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Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00

110

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D2650.

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number Description Batch

A/R Aluminum Rod

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg 2650 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D2650

7-Open holes for Aft end cap as per Dwg D2650 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt 8167.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

DP

12-03-13

BE 12-03-14

OK 12/03/13

SAD 12-03-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Start Date: 09/01/2012 Start Qty: 1.00

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Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D2650

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D2650

15-C'sink GHW rivet holes as per Dwg D2650

SAD 12-03-20

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

P 12.03.20

1/8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

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Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 09/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Skidtubes	0.00							
130									
Skidtubes	Memo	0.00							
Skidtubes	1-Open crossbolt holes to Ø0.3125"								
	2-Drill pilot holes using DT8028-3, then open to Ø0.297" as per Dwg D2650. Open Aft cap hole #6.								
	3-Deburr tube and blow out chips from inside the tube								
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.00							
Quality Control									

De 12/03/21

7/6/12-321

De 12/03/21

DP 12-3/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Work Order ID 78395

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January-09-12 8:54:34 AM

Item ID: D206-642-241 Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Replacement Skidtube
 Start Date: 09/01/2012 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 23/01/2012 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1-Open holes to finished size as per Dwg D2650, D2650-3 Drilling Detail (without cutting fluid)								
	2-C'sink crossbolt spacer holes as per Dwg D2650(without cutting fluid)								
	3-Deburr and blow out all chips from inside the tube								
170	QC6- Inspect dimensions to drawing	0.00							
170									
QC	Memo	0.00							
Quality Control									

OK 12/03/21

12-3-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Item ID: D206-642-241 Accept ***N9000040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube
 Start Date: 09/01/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 23/01/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180

0.00

180

Skidtubes

0.00

Skidtubes

Memo

1-Locate, install and rivet doublers as per Dwg D2650. Micro-shave rivets as required

> SAG

12-03-21

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12

Hrs. cure time before cutting

Start Date: 12/03/12 Time: 4:10

Finish Date: 12/03/12 Time: 12:30

Pick:

Qty Part Number Description Batch

A/RSikaflex-291 120813

Sikaflex expire date: 12/08/13

DC 12/03/21

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

1 2 2E 12/03/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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January-09-12 8:54:34 AM

Item ID: D206-642-241

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 09/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00

200

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch

A/RAluminum Rod m20164

3-Grind welds flush as per Dwg D2650.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D2650. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/RSS Rod NONE BE 12/03/27

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D2650. Deburr

BE 12/03/23
CF 12-3-26

ND 12-3-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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January-09-12 8:54:34 AM

Item ID: D206-642-241

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Replacement Skidtube

Start Date: 09/01/2012 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240 Pressure Wash per QSI005 4.3 0.00

240

HandFinish

Memo

0.00

Hand Finishing

Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.

1X/ M/L 12/03/29

250 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00

250

Powdercoat

Memo

0.00

Powder Coating

START TIME: 10h25
OVEN TEMPERATURE: 320°C
FINISH TIME: 10h35

M/20222

1 Q (OP) 12/04/02.

260 QC3- Inspect Part Finish 0.00

260

QC

Memo

0.00

Quality Control

1 d Jll 11/04/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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January-09-12 8:54:34 AM

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N900040100

Setup Start

NS1

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Stop

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Item Name: Replacement Skidtube

Start Date: 09/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

0.00

270

HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1- Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate.

A/RSikaflex-291 1110318

Sikaflex expire date: 12100

2-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D2650 (D2650-3 detail). Clean excess adhesive.

3-Install MS27039-4-06 Screw as per DEO 9153.

4 -Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive

A/RSikaflex-291 11120318

Sikaflex expire date: 12100

5 -Wing Walk as per Dwg D2650-3 and QSI 005 4.4

A/R Batch: 11120595

Batch:

300

QC5- Inspect part completeness to step on W/O

0.00

300

QC

Memo

0.00

Quality Control

6/12/09

1 d 11/10/03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
310		0.00							
310	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-664-241								
	Location: _____								
	PPP Rev: <u>PM 8/229</u>								
320									
320	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

Handwritten signature

Handwritten date: 12/4/12

Handwritten date: 1/20/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

January-09-12 8:54:38 AM

Page 1

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: 04.12.02 Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by: ECIPP rev Q 10.02.19 per PAR 09-043 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2620 *D2620* Skidtube, 206 Skidtube		Manufactured	No			110	Each	28.0000	1	1			
<div> <div> ** </div> <div> <i>B 79544</i> </div> </div>													
<div> <div> Location </div> <div> Loc Qty </div> <div> Loc Code </div> </div>													
<div> <div> LG </div> <div> 28 </div> <div> </div> </div>													
<div> <div> 71616 </div> <div> 1 </div> <div> </div> </div>													
<div> <div> 71617 </div> <div> 6 </div> <div> </div> </div>													
<div> <div> 75587 </div> <div> 2 </div> <div> </div> </div>													
<div> <div> 76815 </div> <div> 6 </div> <div> </div> </div>													
<div> <div> 76817 </div> <div> 10 </div> <div> </div> </div>													
<div> <div> 76819 </div> <div> 3 </div> <div> </div> </div>													
D3286-1 *D3286-1* Doubler		Manufactured	No			110	Each	146.0000	2	2			
<div> <div> ** </div> <div> <i>SAD 12-03-06</i> </div> </div>													
<div> <div> Location </div> <div> Loc Qty </div> <div> Loc Code </div> </div>													
<div> <div> LG002 </div> <div> 146 </div> <div> </div> </div>													
<div> <div> 74872 </div> <div> 6 </div> <div> </div> </div>													
<div> <div> 75484 </div> <div> 22 </div> <div> </div> </div>													
D2647 *D2647* Cap		Manufactured	No			110	Each	164.0000	1	1			
<div> <div> ** </div> <div> <i>B 78044 (2)</i> </div> </div>													
<div> <div> Location </div> <div> Loc Qty </div> <div> Loc Code </div> </div>													
<div> <div> LG002 </div> <div> 164 </div> <div> </div> </div>													
<div> <div> 73826 </div> <div> 55 </div> <div> </div> </div>													
<div> <div> 75482 </div> <div> 109 </div> <div> </div> </div>													

BE 12/23/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2654-3 Manufactured No

180 Each

3.0000

1

1

D2654-3

Web

**

OK 12/03/21

Location *B 78988*

Loc Qty

Loc Code

LG

3

73442

3

CR3212-4-04

Purchased No

180 Each

11,769.00

52

52

CR3212-4-04

Cherry Rivet

**

SAD 12-03-21

Location

Loc Qty

Loc Code

ST331

1779

116471

78

117816

3

118686

1

118840

16

119017

1671

119075

10

st510

9990

119075

9990

52

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January-09-12 8:54:38 AM

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2649 Manufactured No 200 Each 294.0000 18 18

D2649

Cross Bolt Spacer

BE 12/03/23

*B 79565 *18*

Location Loc Qty Loc Code

LG001	294	
65317	1	
68224	2	
68507	11	
71355	2	
72704	2	
72841	11	
73390	8	
73857	21	
73858	53	
73859	4	
73860	4	
76793	175	

D3286-3 Manufactured No 200 Each 180.0000 2 2

D3286-3

Spacer

BE 12/03/27

*B 79557 *2*

Location Loc Qty Loc Code

LG	100	
78015	100	
LG001	80	
74117	1	
76773	79	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

January-09-12 8:54:38 AM

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

210

Each

140.0000

1

1

D2680-041

Nut Plate

**

1 ~~12/03/27~~

Location

Loc Qty

Loc Code

ST013

44

75479

44

ST019

96

76790

96

CR3212-4-03

Purchased

No

210

Each

1,716.000

2

2

CR3212-4-03

Cherry Rivet

**

2 ~~12/03/27~~

Location

Loc Qty

Loc Code

FP002

724

114859

724

ST331

992

110139

2

119017

990

CCR264SS3-3

Purchased

No

210

Each

947.0000

2

2

CCR264SS3-3

Cherry Rivet

**

2 ~~12/03/27~~

Location

Loc Qty

Loc Code

ST331

947

113973

2

117849

139

119017

806

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Page 5

January-09-12 8:54:38 AM

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2646 Manufactured No 270 Each 130.0000 1 1

D2646

Aft Cap

**

B379500 (x1) All 1/10/03

Location	Loc Qty	Loc Code
FP002	130	
62678	5	
68280	5	
70945	1	
71038	4	
71070	2	
73294	1	
73825	112	

D2651-1 Manufactured No 270 Each 225.0000 18 18

D2651-1

Plug

**

B378584 (x18) All 1/10/03

Location	Loc Qty	Loc Code
FP001	225	
57869	1	
66445	10	
69018	2	
70839	2	
71037	31	
73827	179	

AN960JD416 NAS1149D0463J Purchased No 270 Each 0.0000 1 1

AN960JD416 *

Washer

**

M118384 (x1) All 1/10/03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Picklist Print

January-09-12 8:54:38 AM

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2651-3 Manufactured No

270 Each 715.0000 18 18

D2651-3

O-Ring

**

M178126 (x18) JH 12/01/03

Location Loc Qty Loc Code

FP001 715
61962 12
73828 703

MS27039-1-08 Purchased No

270 Each 1,053.000 46 46

MS27039-1-08

Screw

**

M1121011 (x46) JH 12/04/03

Location Loc Qty Loc Code

ST291 1053
117423 77
118910 102
119075 374
119109 500

ALS4-1032-130 Purchased No

270 Each 1,684.000 44 44

ALS4-1032-130

Insert

**

M1120807 (x44) JH 12/04/03

Location Loc Qty Loc Code

ST280 1589
119084 1589
ST281 95
119632 95

MS27039-4-06 Purchased No

270 Each 304.0000 1 1

MS27039-4-06

Screw

**

JH 12/04/03

Location Loc Qty Loc Code

ST292 304
119075 304

X 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

January-09-12 8:54:38 AM

Page 7

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

AN960JD10L

NAS1149D0332J

Purchased

No

270

Each

0.0000

46

46

*AN960JD10L *

Washer

D3537-1

Manufactured

No

270

Each

24.0000

4

4

D3537-1

Wearpad

**

M120644 (x46) JEL 11/04/03

**

080337 (x1) JEL 11/04/03

Location

Loc Qty

Loc Code

FP002

24

69817

5

77036

19

D3537-3

Manufactured

No

270

Each

12.0000

1

1

D3537-3

Wearpad

**

B80338 (x1) JEL 11/04/03

Location

Loc Qty

Loc Code

FP002

12

76986

12

D3535-13

Manufactured

No

270

Each

4.0000

1

1

D3535-13

Wearshoe

**

B78962 (x1) JEL 11/04/03

Location

Loc Qty

Loc Code

FP001

4

74616

4

D3536-13

Manufactured

No

270

Each

3.0000

1

1

D3536-13

Gasket

**

B78964 (x1) JEL 11/04/03

Location

Loc Qty

Loc Code

FP002

3

72880

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

Page 8

January-09-12 8:54:38 AM

Work Order ID: 78395

78395

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 09/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D3535-21	Manufactured	No	270	Each	7.0000	1	1
D3535-21						**	B378983 (x1) JU 12/04/03
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	7	
70380	7	

D3536-21	Manufactured	No	270	Each	5.0000	1	1
D3536-21						**	B378966 (x1) JU 12/04/03
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	5	
70464	5	

D3535-33	Manufactured	No	270	Each	11.0000	1	1
D3535-33						**	JU 12/04/02
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	11	
70383	1	
70462	10	

D3536-33	Manufactured	No	270	Each	19.0000	1	1
D3536-33						**	JU 12/04/02
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	19	
70382	3	
70465	16	

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Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

F

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

UNCONTROLLED COPY
SUBJECT TO
NO. 78395 M.L.J
12/01/09

RELEASED
08-07-23/17

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	REMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

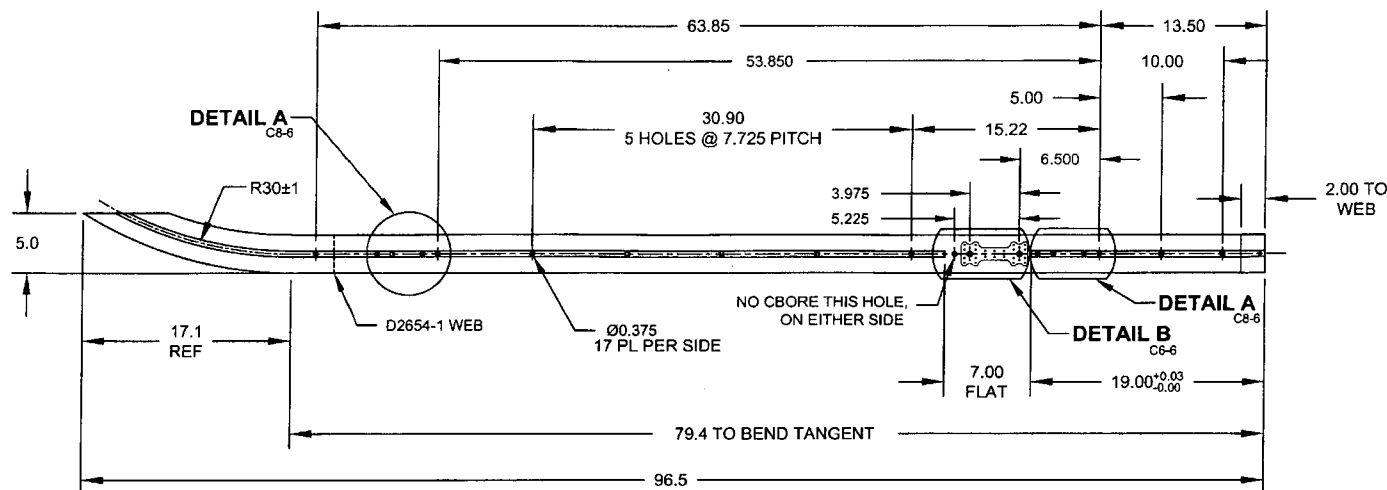
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

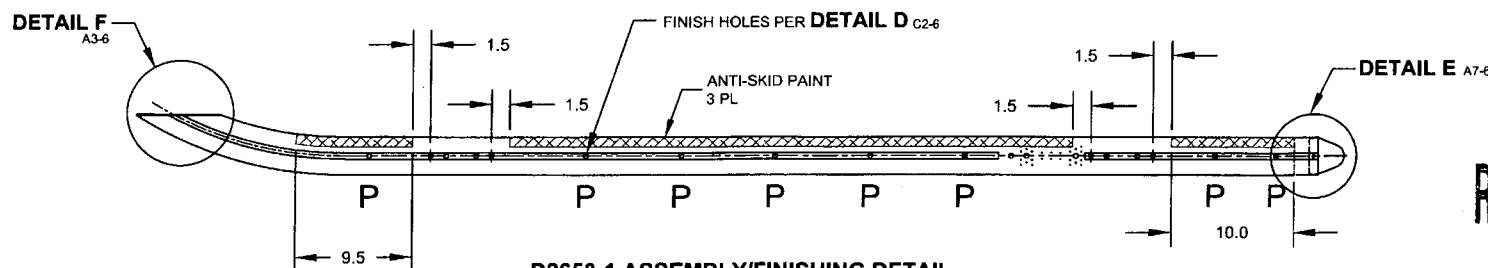
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

78395



D2650-1 BENDING/DRILLING DETAIL



D2650-1 ASSEMBLY/FINISHING DETAIL

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820922/111

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 2 OF 6
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

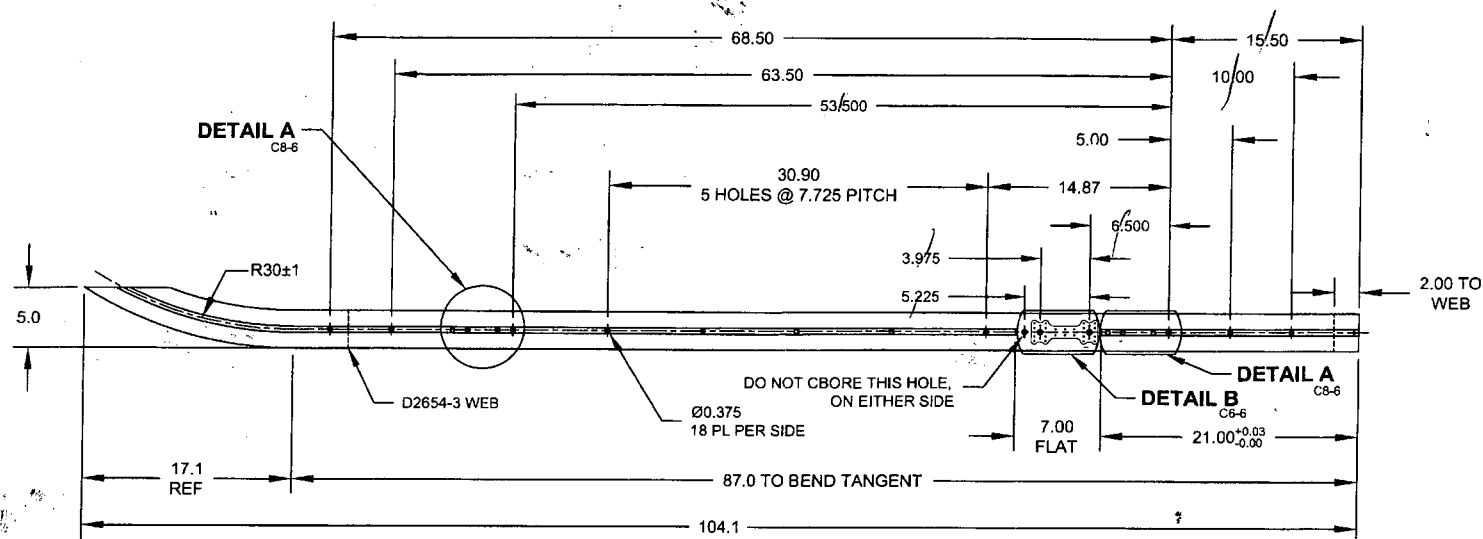
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

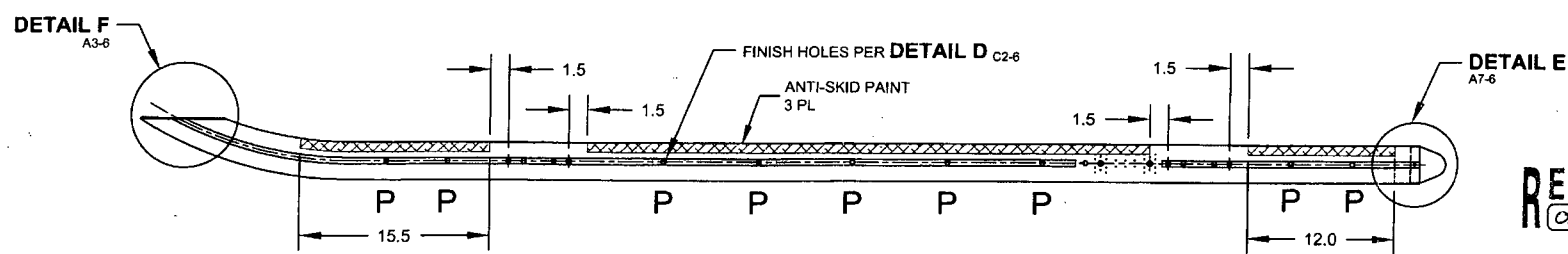
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

78395



D2650-3 BENDING/DRILLING DETAIL



D2650-3 ASSEMBLY/FINISHING DETAIL

RELEASED
08-07-22

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

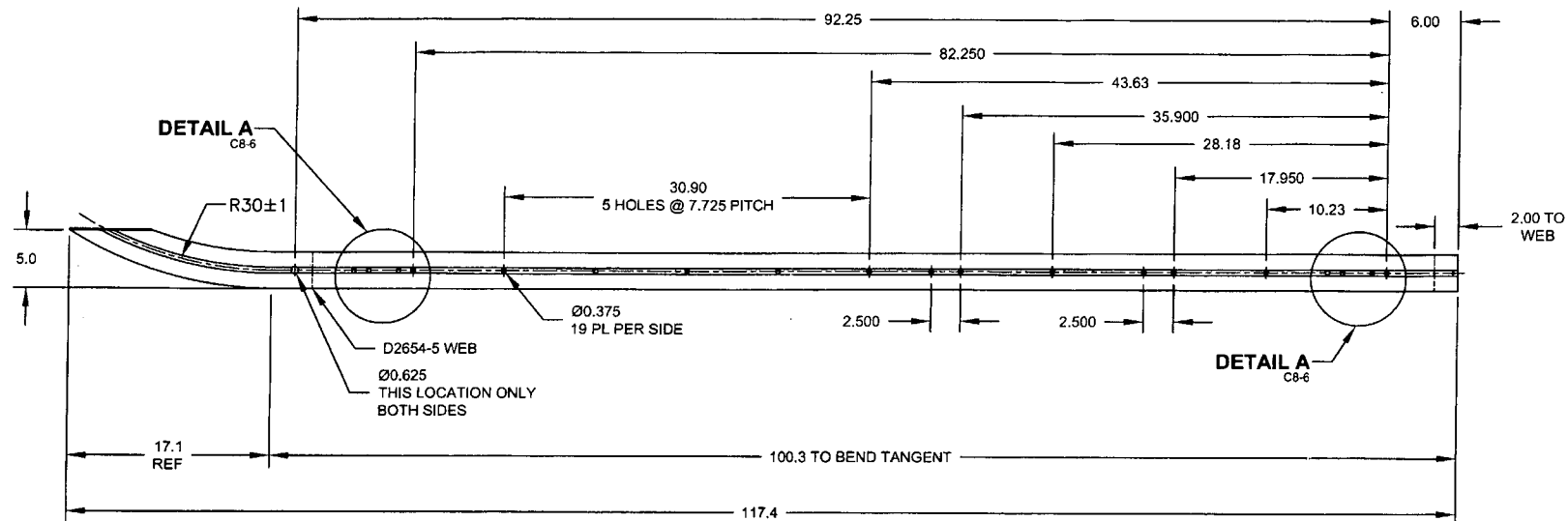
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

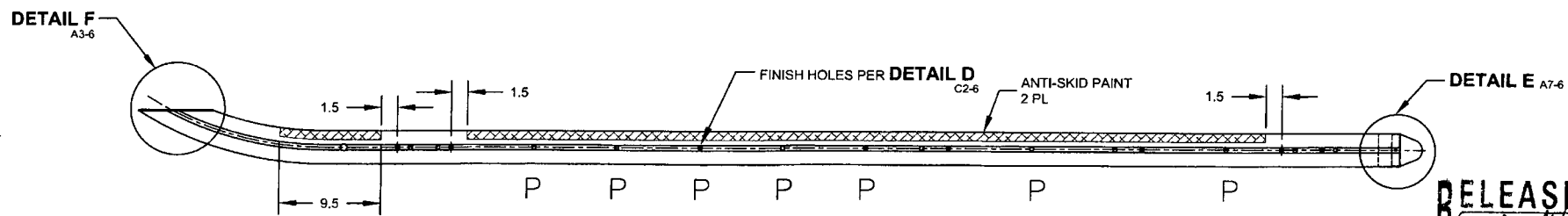
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

78395



D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

RELEASED

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DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>[Signature]</i>	D2650	SHEET 4 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

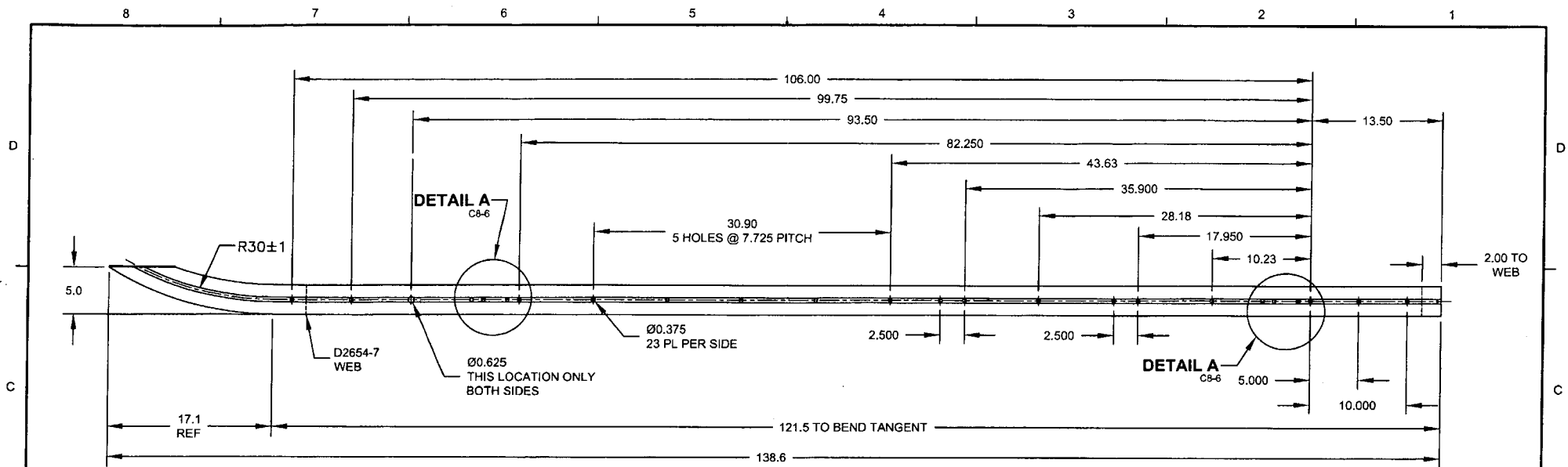
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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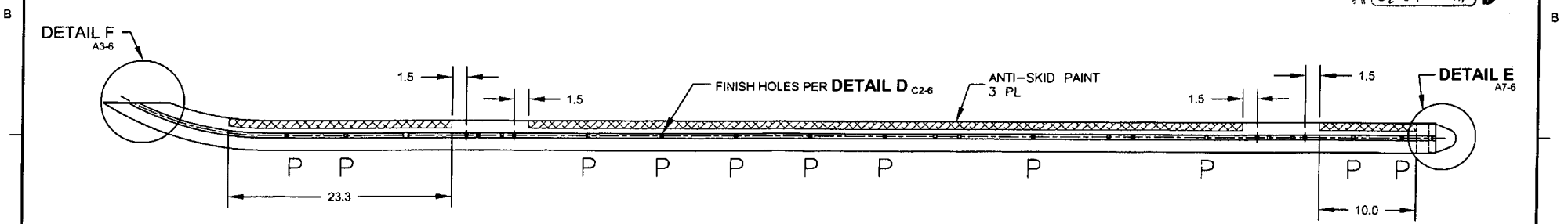
NOTE: Date & initial all entries

78395



D2650-7 BENDING/DRILL DETAIL

RELEASED



D2650-7 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 5 OF 6
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

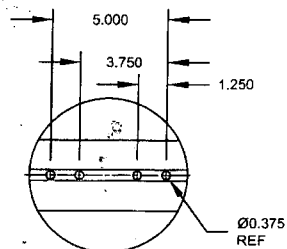
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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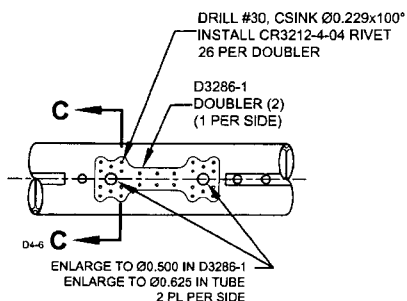
NOTE: Date & initial all entries

78395



DETAIL A
SCALE 2X

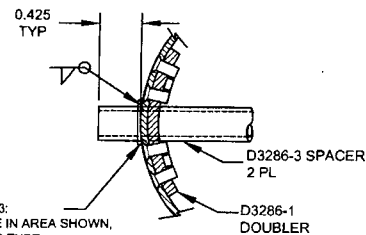
C2-2
D7-2
C2-3
D7-3
C2-4
D7-4
C2-5
D6-5



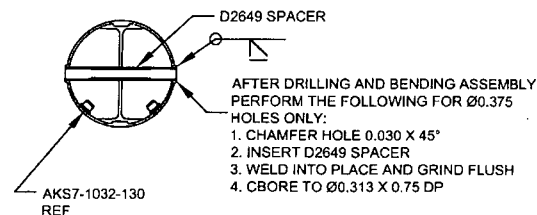
DETAIL B
SCALE 2X

C3-2
C3-3

SECTION C-C C7-6
SCALE NONE



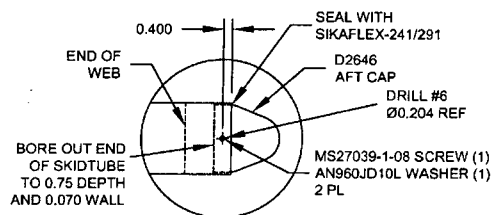
- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.030x45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE.



DETAIL D
FOR Ø0.375 HOLES ONLY
SCALE 3X

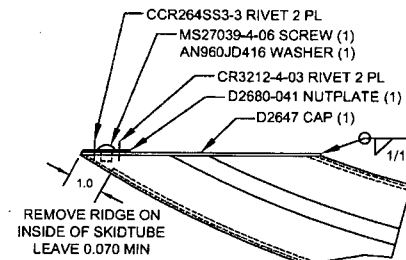
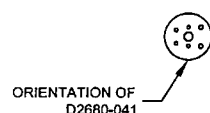
B4-2
B4-3
B4-4
B4-5

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP



DETAIL E
SCALE 2X

B2-2
B2-3
B1-4
B1-5



DETAIL F
SCALE NONE





B8-2
B8-3
B8-4
B8-5

DETAIL F NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
08-09-22-198

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 252

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 66358
Part number: D206 642 541
Description: 206
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat Ryan Date of Test Coupon 11-05-09
Welder Barclay Elliott Date of Test Coupon 11-05-09

The above named individual is qualified in accordance with AWS D17.1.2001 to weld